Chapter 2 Study Guide

What is quantitative data, and what is qualitative data?

What are the scientific units of length, mass, and volume.

What are all the metric units that we have talked about thus far? Draw a chart that will help you remember them.

How would you convert between two units. Try the following (show all work)

25 cm =_____km

50g = _____dag

900 hm =_____km

677 L =_____cL

478 mg =_____g

90 dm =_____hm

Define Accuracy and Precision.

Explain whether the following series of numbers are accurate, precise, or both.
Student's mass of object: 78.1 g 78.2 g 78.1 g 78.0 g
Actual mass of object; 70.0 g

What is the formula for percent error? If the volume of an object is actually 520 mL and its volume is measured to be 500 mL, what is the percent error?

A student records the following masses of various samples of aluminum:

Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
6.44 mL	6.30 mL	6.70 mL	6.80 mL	6.55 mL

The average recorded mass is (SHOW WORK WITH UNITS):

The precision of the measurement is: (Note express this using + or – notation)

Express the following numbers in scientific notation

_____ 8900 _____ 89000000 _____ 0.56 _____ 0.00000031

Write the following numbers as decimals

_____ 7.4×10^{5} _____ 5.4×10^{-2} _____ 5.4×10^{7}

What are the two types of proportions we talked about? Describe them both in the space below.

For the following calculations:

- the volume of a cylinder is $\pi r^2 h$
- the volume of a cube is L x W x H.

The mass of stone was found to be 7.0 g. The initial water level in a graduated cylinder was found to be 5.00 mL, and when the stone was placed inside it rose to 53.0 mL. What is the density of the stone?

A cylinder has diameter of 1.2 cm and a height of 7.0 cm. What is the density of the cylinder if it has a mass of 65.0 g?